CLAIMS

1. Transmission assembly, particularly for an engine preferably of the walk-behind type, said assembly comprising an input shaft (1) such as an endless screw, driven in rotation and in engagement with a toothed wheel (2A), this wheel being mounted freely in rotation on a shaft (3A) called a drive shaft of the engine and coupleable to said shaft by means of a clutch device (4A) adapted to pass from a clutched position to an unclutched position and vice versa, by means of a suitable control device, the movement of the shaft (3A) carrying the clutch device (4A) being transmitted directly or by means of an intermediate device to an output shaft (6), such as the wheel carrying shaft of the engine, characterized in that said transmission assembly comprises at least two toothed wheels (2A, 2B) tangent to the input shaft (1), counter-rotating, respectively in engagement with the input shaft (1), each wheel (2A, 2B) being coupleable to a shaft (3A, 3B) called a drive shaft for forward movement or respectively for rearward movement of the engine by means of a clutch device (4A, 4B) adapted to pass from a clutched position to an unclutched position and vice versa, the clutch devices (4A, 4B) being selectively actuable as a function of the position taken by at least one angularly displaceable member (5, 7) of the clutch control device, the movement of each shaft (3A, 3B) carrying a clutch device (4A, 4B) being, in the active condition of its clutch device, transmitted directly or by means of an intermediate device to an output shaft (6) such as the wheel carrying shaft of the engine.

2. Transmission assembly according to claim 1, characterized in that the control device is constituted on the one hand by a pivot (7) causing, in the course of its angular movement, directly or by means of an intermediate member, an actuation/de-actuation of the clutch control member or members (5), on the other hand by a lever (8), called a lever for reversing the direction of the engine, mounted on said pivot (7), this lever (8) being driven pivotably about an axis extending transversely to the axis of the pivot (7) so as to be able to pass from a position, called a forward movement position in which it extends to one side of said pivot (7), to a so-called rearward movement position in which it extends on the other side of said pivot (7) and vice versa, by passing through a neutral position in which the lever (8) prolongs the pivot (7), this lever (8) being subjected to the action of a control (9), such as a cable control, adapted to exert on said lever (8) a traction force which causes, in the forward movement position of the lever (8), an angular movement of the pivot (7) in a first direction and as a result the clutching of the drive shaft (3A) in the forward direction of the engine, and in a rearward direction of movement of the lever (8), an angular movement of the pivot (7) in an opposite direction and as a result the clutching of the drive shaft (3B) in the rearward movement direction of the engine, said pivot (7) being returned to a predetermined position corresponding to an unclutched position.

3. Transmission assembly according to claim 2, characterized in that the axis (D) of pivoting of the lever (8) and the axis (D1) of the pivot (7) returned by a

spring (10) to a predetermined position, form between them an angle α different from 90°, in particular less than 90° and oriented relative to each other to permit, in the clutched position obtained by exerting a predetermined tractive force on the control cable (9), the passage of the reversing lever (8) from one position of movement to another without modifying the tractive force exerted on the cable (9).

4. Transmission assembly according to one of claims 2 and 3,

characterized in that the reversing lever (8) is mounted on the pivot (7) so as to cause, during passage of the lever (8) from one position of movement to the other, a relaxation of the tension in the control cable (9) subject to a predetermined constant tractive force by means of a suitable manipulating member (19), this relaxation of the tension being compensated, in the engaged condition of the transmission, by a simultaneous angular movement of the pivot (7).

5. Transmission assembly according to one of claims 2 to 4,

characterized in that the pivot (7) has the form of a tubular body having, alone one of its generatrices, an inclined surface traversed by the pivotal axis of the reversing lever (8) and along which moves, in bearing contact, the lever (8) during passage from one movement position to another.

6. Transmission assembly according to one of claims 2 to 5,

characterized in that the transmission comprises a clutch control member (5), such as a fork, common to the two clutch devices (4A, 4B).

7. Transmission assembly according to one of claims 2 to 6,

characterized in that the pivot (7) and the clutch control member (5), kinematically secured together for movement, are mounted pivotably about a common axis and are directly connected to each other to constitute a monobloc assembly.

8. Transmission assembly according to one of claims 2 to 6,

characterized in that the clutch control member (5) has the form of a fork kinematically secured in angular movement to the pivot (7), this fork comprising two sets of teeth (11) each coacting, as a function of the angular position taken by the fork, with a clutch device (4A, 4B) to permit passage of the clutch device (4A, 4B) from an unclutched position to a clutched position and vice versa, these sets of teeth (11) being shaped to act asynchronously on the corresponding clutch device.

9. Transmission assembly according to claim 8,

characterized in that each set of teeth (11) is constituted by two polygonal teeth disposed diametrically opposed in a circular recess (13) of the fork body, each tooth comprising two active parallel surfaces (12) disposed on opposite sides of the median diametral plane of the recess (13) and offset on said circle constituting the recess (13), these active surfaces (12) acting by bearing in the manner of a spacer between a driven element of the clutch device and an abutment member carried by the shaft (3A, 3B) carrying the clutch device (4A, 4B), the active surfaces (12) from one set of teeth to another set of teeth being disposed symmetrically relative to a median diametral plane of the recesses (13).

10. Transmission assembly according to one of claims 2 to 8,

characterized in that the lever (8) for reversing movement is controlled in pivotal displacement by a manipulating member (14) such as a pivoting lever, positionable adjacent the drive member of the engine, this manipulating member (14) being connected by a movement transmission such as a control cable (15), to a rack (16) loaded by a spring (17) and engaging with a toothed portion (18) of the reversing lever (8).

11. Transmission assembly according to one of claims 2 to 10,

characterized in that the cable control (9), subjecting the reversing lever (8) to a tractive force, is constituted by at least one cable connecting the lever (8) to a manipulating member, such as a pivoting handle (19) positionable adjacent the drive member of the engine.

12. Engine, preferably of the walk-behind type, such as a snow blower or mower, this engine being provided with a transmission comprising an input shaft (1) such as an endless screw, driven in rotation and in engagement with a toothed wheel (2A), this wheel being freely mounted in rotation on a shaft (3A) called a drive shaft of the engine

and coupleable to said shaft by means of a clutch device (4A) adapted to pass from a clutched position to an unclutched position and vice versa by means of a suitable control device, the movement of the shaft (3A) carrying the clutch device (4A) being transmitted directly or by means of an intermediate device to an output shaft (6), such as the shaft carrying the wheels of the engine,

characterized in that the transmission is according to one of claims 1 to 11.